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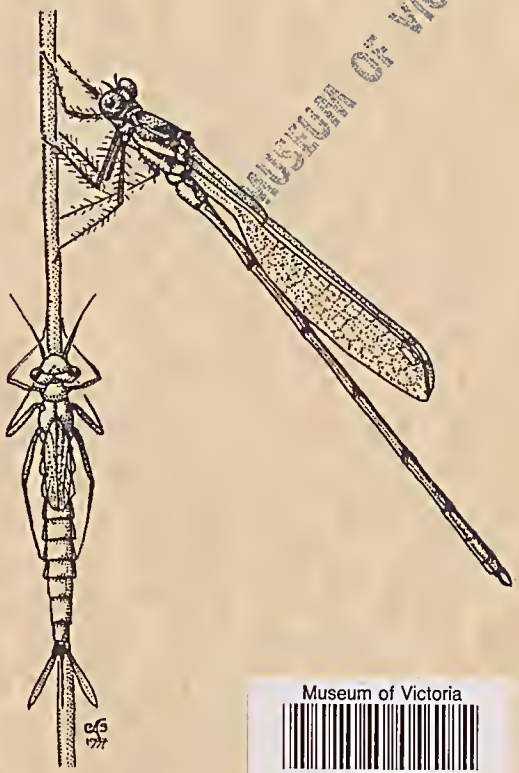

Museum of Victoria
43320

News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

(a) to stimulate the scientific study and discussion of all aspects of entomology,
(b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
(c) to compile a comprehensive list of all Victorian insect species,
(d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at room AG17, La Trobe University Carlton Campus, 625 Swanston Street, Carlton, Melway reference Map 2B E10 at 8 p.m. on the third Friday of even months, with the possible exception of the December meeting which may be held earlier. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	$20.00
Country Member	$16.00 (Over 100 km from GPO Melbourne)
Student Member	$12.00
Associate Member	$ 5.00 (No News Bulletin)

No additional fee is payable for overseas posting by surface mail of the news bulletin. Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

Cover design by Alan Hyman.

Cover illustration of *Synlestes weyersii tilyardi* (O.: Synlestidea) ♂ by Catherine Symington.

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MINUTES OF THE GENERAL MEETING, 18 APRIL 1997

The Treasurer, I. Endersby, opened the General Meeting at 8.13 pm

Present: P. Carwardine, P. & M. Coupar, C. Dickson, D. Dobrosak, I. Endersby, A. & E. Farnworth, E. Grey, R. Vagi.

Visitors: J. Broadberry, M. Endersby, P. Grey.

Apologies: D. & J. Holmes, A. Kellchear, R. MacPherson.

Minutes: Minutes of the 21 February General Meeting [*Vic. Ent.* 27(2):21-22] were passed with the correction of R. MacPherson being added to the Apologies list (A. Farnworth/I. Endersby).

Treasurer's Report: The Treasurer reported that the Society's accounts were as follows: General Account: $4,971, Le Souëf Award Account: $3,359. Membership: 99.

Editor's Report: The Editor reported that enough articles were in hand for the next issue of *Victorian Entomologist* but articles were still required for future issues of the news bulletin. The delay in the mailout of *Victorian Entomologist* was due to supply problems with the cover card.

Correspondence:

- Society for Insect Studies Circular No 61.
- Myrmecia 33(1)
- Australian Journal of Entomology 36(1)
- Letter from the Department of Natural Resources and Environment informing the society of a new contact point for research permits.
- Letter from Mr R. Hay thanking the Society for his Le Souëf Award certificate.

Speaker:

Pat and Mike Coupar presented an enlightening talk on raising butterflies and moths. The Coupars commenced their talk with an explanation of the breeding cages which they have used in their successful attempts at breeding through eggs and larvae to adult butterflies and moths. The impetus to the Coupar's extensive experience in this field was an enquiry from their young son who asked "What does this caterpillar turn into?" And so started many years of breeding and photographing butterflies and moths.

After this introduction, Pat and Mike displayed a series of colour slides of the adults, larvae and eggs of various butterflies and moths. The slides were grouped according to the host's foodplant e.g. grasses, sedges, mistletoes, lichens etc. Some of the slides were from the Coupar's book "Flying Colours" and all slides were of the usual high quality which is Pat and Mike's trademark.

The talk included valuable advice on rearing techniques which was of interest to the experienced as well as novice breeders present at the meeting. The advice included using Styrofoam in the bottom of the breeding enclosures. The Styrofoam was found to be favoured by many moth larvae which tunnel below ground level to pupate. The use of mercury vapour lamps was found useful in attracting adult moths. Eggs from captured female moths were then able to be bred to adults, a variety of foodplants being offered to species with unknown foodplant records.

In many cases, the Coupars were able to observe the life history of several species, perhaps for the first time and ultimately photograph the perfect adult after growth of the larvae and pupation.

At the conclusion of Pat and Mike's talk Arthur Farnworth proposed a vote of thanks on behalf of those present.

General Business:

Application for Membership: Applications for membership were received from A. Bould, E Jaworowski and N. Jaworowski.

Field Naturalist's Survey: E. Grey briefly reported on the progress of the Glynns Reserve survey. Apparently ants are still active with approximately 850 ants collected in 10 pitfall traps.

Museum of Victoria: It was reported that the Entomology Department of the Museum of Victoria was now only accepting public inquiries on Tuesday and Thursday mornings.

Eltham Copper Colony: Considerable discussion ensued about Parks Victoria's proposed controlled burn of the habitat of the Eltham Copper butterfly in its remnant bushland reserves in the Eltham-Greensborough area of Victoria. The Eltham Copper is recorded from small, stunted bushes of *Bursaria Spinosa*, some ecologists believe that fire is required to keep the bursarias as small bushes and hence suitable foodplants for the Eltham Copper. I. Endersby pointed out that his observations of the butterfly at his home near Eltham indicated that the continued grazing of the larvae were responsible for the stunting of the bursaria.

Field Observations: P. & M. Coupar observed the frantic mating of grasshoppers at Mt Sterling. The grasshoppers were emerald green with blue abdomens. D. Dobrosak observed hundreds of large winged (bulldog) ants at Flinders peak, You Yangs on 12 April 1997. A member also reported that several months ago hundreds of small beetles were washed up on a beach at Mallacoota.

The meeting was closed by the Treasurer at 9.38 pm.

MINUTES OF THE COUNCILLOR'S MEETING, 16 MAY 1997

A formal Council meeting was not held as a quorum was not be able to be obtained.

The President, A. Kellehear, opened the meeting at 8.02 pm

Present: P. Carwardine, D. Dobrosak, I Endersby, A. Kellehear.

Apologies: R. MacPherson, D. Meehan.

General Business:

Election of Office Bearers at the June Annual General Meeting: Members are encouraged to consider standing for a council position. Nomination forms are available from the Secretary. Nominations may also be accepted from the floor on the night of the meeting. Please support your Society and consider nominating for a Council position.

Speaker Program at General Meetings: Members please note that the date for the General Meeting/Excursion to the Institute for Horticultural Development will now be held on 17th October 1997. This issue of *Victorian Entomologist* has the correct date.

Membership Drive: Considerable discussion took place on methods of increasing membership of the Society, particularly in the Melbourne metropolitan area.

Science Talent Quest: The Treasurer reported that the usual donation towards the Science Talent Quest Bursaries for 1997 were made.

Auditor's Report: The Treasurer reported that the auditor had completed examination of the Society's accounts. The only error found was the mis-spelling of "brochures" in the statement.

The meeting was closed by the President at 9.00 pm.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA INC.
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 31 DECEMBER 1996

GENERAL ACCOUNT

INCOME Subscriptions			
Member	1996		1159
	1997		554
Institution	1996		104
	1997		134
Journal Advertisements			15
Brochure Mailout			80
Donations			29
Interest			94
			2169
EXPENDITURE			
Journal Costs			
Printing	720		
Postage	386	1106	
Lecture Room Hire		138	
Aust Ent Soc Fees (1995 & 1996)		105	
Corporate Affairs Fee		32	
Stationery & Postage		9	
Advertising Brochures		68	
December Meeting Supper		5	
Bank Fees		8	1471
SURPLUS FOR YEAR			698
Add Balance brought forward from 1995			4073
Balance carried forward to 1997			4771

LE SOUËF MEMORIAL FUND

INTEREST INCOME			227
Less			
Award Expenditure		16	
Science Talent Search		50	
			66
SURPLUS FOR YEAR			161
Add balance brought forward from 1995			751
Balance carried forward to 1997			912

STATEMENT OF ASSETS AT 31 DECEMBER 1996

GENERAL ACCOUNT

Bank Account	4771
Editor's Advance	104
Stock of Maps	40
	4915

LE SOUËF MEMORIAL FUND

Bank Account	912
Fixed Deposit Stock	2400
	3312

NOTES ON SOME WESTERN AUSTRALIAN BUTTERFLIES

Andrew A.E. Williams[1], Matthew R. Williams[2] and Andrew F. Atkins[3].

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Introduction

Range extensions, new foodplants and behavioural observations are recorded for several species of butterflies in Western Australia during 1995 and 1996. Intermediate locality records are given for others. Voucher specimens are lodged in the Insect Collection of the Department of Conservation and Land Management and in Andrew Atkins' private collection.

Observations and discussion

HESPERIIDAE

Trapezites sciron sciron Waterhouse and Lyell
The type locality of this skipper is the Stirling Range in the central south-west of Western Australia. The type specimens (in the Australian Museum) most resemble the subspecies *T. s. eremicola* Burns from western Victoria and South Australia (AFA pers. obs.). A larger, darker form is found in the Perth area. The morphological characters of this form and *T. s. eremicola* were compared by Mayo and Atkins (1992).

In early November 1995 one of us (AFA) located a population of *T. s. sciron* at Australind (33° 17'S 115° 42'E), 150 km south of Perth. The site was in remnant Jarrah and Banksia woodland, part of a residential zone subdivision at Australind. Males visited flowers and established territories on slight dune rises. Females were mainly seen in shallow swales or on slopes where several were seen to oviposit on *Lomandra hermaphrodita* (C.R.P. Andrews)C. Gardner. Specimens from this locality are usually more heavily maculated on the underside than specimens from Perth; however, comparison of series from both localities suggests that they belong to the same form.

Trapezites argenteoornatus argenteoornatus (Hewitson)
The larvae of *T. a. argenteoornatus* are known to feed on *Acanthocarpus preissii* Lehm. (Common and Waterhouse 1981). At Watheroo National Park the butterflies have been observed flying around *Acanthocarpus canaliculatus* A.S.George, and this is probably the foodplant (Williams *et al.* 1993). In late July 1995 we found pupae of this species on *Acanthocarpus verticillatus* A.S. George at Sandalwood Peninsula, Exmouth Gulf (22° 30'S 114° 15'E). Further south at Point Quobba, (24° 29' 24"S 113° 24' 49"E), larvae and pupae were found in typical shelters on both *Acanthocarpus robustus* A.S. George and *A. preissii*

growing on near-coastal dunes. At Useless Loop, Shark Bay, (26° 08'S 113° 25'E) the foodplant is *A. preissii*. This skipper was also encountered at Kalbarri National Park (27° 42' 59"S 114° 19' 13"E) and near Bullara (22° 40' 23"S 114° 00' 50"E) south of Exmouth Gulf.

Mesodina cyanophrocto Lower
M. cyanophracto is restricted to south-western Australia where it occurs from near Kalbarri (27° 41'S) (Edwards and Graham 1995), south to Albany and the Stirling Range (Common and Waterhouse 1981, Dunn and Dunn 1991), and east as far as Mount Ragged in Cape Arid National Park (Williams and Atkins 1996). In the extreme south west we have additional locality records from Cape Naturaliste (33° 32'S 115° 01'E), and from D'Entrecasteaux National Park (34° 45'S 116° 05'E) between Northcliffe and Windy Harbour.

Proeidoso polysema (Lower)
At North West Cape this skipper was relatively common at a number of sites in July 1995. Few adults were seen, but numbers of larvae and pupae were found in typical shelters on the common spinifex *Triodia pungens* R. Br., which is also a foodplant in north central Queensland (Le Souef 1975). *P. polysema* was also located at Sandalwood Peninsula, Exmouth Gulf (22°30'S 114° 15'E), and from a point 150 km south of Exmouth on the Exmouth-Minilya road (23° 16' 06"S 113° 52' 33"E).

Croitana croites (Hewitson)
C. croites is restricted to Western Australia where it occurs from Carnarvon south to Bunbury (Common and Waterhouse 1981), and inland to the Menzies/Kalgoorlie area (Graham 1988). Three morphologically distinct populations have been recognised (see Graham 1988); one from the southern coastal area between Perth and Bunbury, the second from the northern coastal and near coastal areas (Murchisoo district to Dongara), and the third from the inland area between Menzies and Kalgoorlie. Genitalic morphology, although remarkably variable, suggest that these forms may not be conspecific (AFA *pers. obs.*). The life history of the pale inland Kalgoorlie population has been described by Graham (1988). Individuals from the south-west were reared many years ago by Len Couchman (Michael Braby, C.S.I.R.O., *pers. comm.*). Atkins (1978) described the egg and first instar larva, the egg being extracted from a Bunbury female.

The foodplant for this skipper south of Kalgoorlie is *Stipa plotychoeta* Hughes (Graham 1988). On the tall dunes south of Bunbury, the foodplant is *Stipa flavescens* Labill., a broad bladed tussock grass which grows to a height of 1 metre through the canopy of heathy shrubs In early November 1995, one of us (AFA) found several eggs of *C. croites* laid on the underside of the leaves of this species. The hatched larvae ate and made tent-like shelters from the leaves of a potted *Stipo elegontissimo* Labill. This latter plant is the known foodplant at Shark Bay in the north of the State (R.W. Hay, *pers. obs.*), and probably also near Quairading in the central wheatbelt (Williams *et ol.* 1996).

Cephrenes trichopepla (Lower)
C. trichopepla was first recorded from Wanneroo, 25 km north of Perth, in September 1989 (Williams 1991). In November 1992 a further specimen was collected at Warwick, 12 km south of the original site (Williams *et al.* 1993). This species is still present near Wanneroo, but persists at much lower densities than *C. augiodes sperthios*, which is common over much of the Perth area.

Cephrenes augiodes sperthios (Felder)
C. a. sperthias has extended its range southwards in recent years, undoubtedly as a result of the dispersal of ornamental palms. The species is now established in the coastal towns of

Karratha, Geraldton, Perth, Mandurah, Dawesville, Margaret River and Esperance (Hutchison 1983, 1988, 1989; Williams 1993). In December 1995 we recorded *C. a. sperthias* at Busselton, where larvae at various stages of development were common on Cocos palms in many suburban gardens.

NYMPHALIDAE

Danaus plexippus plexippus (Linnaeus)
In south-western Western Australia *D. p. plexippus* occurs in the Perth area, inland to Toodyay, south to Augusta and east to Esperance (Common and Waterhouse 1981, Dunn and Dunn 1991). In 1992 the species was observed and photographed by Anthony Desmond at Cape Burney, just south of Geraldton, 350km north of Perth. The butterflies were breeding on the introduced Swan Plant *Gomphocarpus fruticosus* (Asclepiadaceae).

Vanessa itea (Fabricius)
In early August 1995 we found early stage larvae on *Parietaria debilis* growing under Acacia shrubs 6 km south of Billabong Roadhouse (26° 49'S 114° 37'E), North-West Coastal Highway. The following month R.J. Powell (*pers. comm.*), found adults abundant around Carnarvon (24° 53'S 113° 40'E), Wooramel (25° 44'S 114° 17'E), and Denham (25° 56'S 113° 32'E), Shark Bay. At Peron Peninsula, Shark Bay, *P. debilis* was common in the coastal strip, occurring under *Acacia rostellifera* in the lower-lying areas, and also under various shrubs in shell grit near the edge of Hamelin Pool and L'Haridon Bight. Common and Waterhouse (1981) state that *V. itea* is found throughout south-western Australia. However, Dunn and Dunn (1991) record no sites on the southern coastline of Western Australia. We found the species at West Cape Howe (35° 08'S 117° 36'E) in November 1996.

LYCAENIDAE

Hypochrysops halyaetus Hewitson
H. halyaetus has been recorded from Perth north to Quobba (Dunn and Dunn 1991) and as far inland as Wongan Hills (Common and Waterhouse 1981). There is a specimen in the Western Australian Museum from Kellerberrin, collected in 1912, but whether a population still exists at this site is unknown. In July 1995 we collected a freshly emerged male at North West Cape (22° 16' 10"S 113° 52' 44"E), 250 km north of Point Quobba. This specimen was flying with *Theclinesthes miskini* around a *Banksia ashbyi* E.G. Baker shrub on top of a large red sand dune. On the large stable dunes inland from Point Quobba, *H. halyaetus* is relatively common in August and September (R.W. Hay, *pers. comm.*). We did not encounter the species at this locality in late July 1995.

Ogyris zosine typhon Waterhouse and Lyell
At North West Cape *O. z. typhon* was previously known from a single worn female taken at Milyering in December 1989 (Williams *et al.* 1992). In late July 1995 we encountered several males on a rocky ridge along the western side of Cape Range (22° 14' 21"S 113° 51' 44"E). Subsequent observations by A.G. Tomlinson have confirmed that the species is not uncommon, and is on the wing until February.

Ogyris oroetes oroetes Hewitson
In April 1996 this species was encountered at Queen Victoria Spring (30° 25' 42"S 123° 34' 23"E). Adult males were active around clumps of flowering *Amyema miquelii* (Lehm. ex Miq.) growing on mature Marble Gums *Eucalyptus gongylocarpa* Blakely. A number of pupae attended by *Iridomyrmex rufoniger* sp. group ants were also located under loose bark on the trunks of these trees. Interestingly, a pupa of *Ogyris amaryllis meridionalis* Bethune-Baker

was located along with the *O. o. oroetes* pupae. At Streich Mound (30° 27' 15"S 123° 41' 00"E), 11 km east-south-east of Queen Victoria Spring, a further male *O. o. oroetes* was collected. We consider that specimens from Queen Victoria Spring Nature Reserve are the nominate subspecies *O. o. oroetes*. Females are blue, while males are distinctly purplish in colour.

Jalmenus ?clementi Druce
At Tom Price in the Hamersley Range, *Acacia inaequilatera* Domin is a recorded foodplant of *J. clementi* (Common and Waterhouse 1981). At North West Cape the foodplant of *J. ?clementi* is *Acacia alexandri* Maslin (Williams and Tomlinson 1994). In July 1995 we collected this species 80 km north-north-east of Carnarvon (24° 15' 05"S 114° 02' 08"E). Few adults were on the wing, but large numbers of pupae, attended by *Iridomyrmex sp.* ants were located on the foodplant *Acacia tetragonophylla* F. Muell. These pupae were almost always in exposed positions on the branches of the foodplant. *J. ?clementi* was also locally common north of Minilya (23° 40' 44"S 113° 58' 11"E), where adults were active around flowering acacia shrubs in open acacia shrubland. The status of the *Jalmenus* species complex in Western Australia is currently under review by Naomi Pierce of Harvard University.

Candalides cyprotus cyprotus (Olliff)
In Western Australia *C. cyprotus* is known from a number of widespread localities from Exmouth south to Wilson Inlet (Dunn and Dunn 1991), and inland as far east as Queen Victoria Spring Nature Reserve (Williams *et al.* 1996). We have additional intermediate locality records from the North-West Coastal Highway 40 km north of the Murchison River Bridge (27 ° 29' 28"S 114° 42' 59"E), Koolyanobbing Range (30° 51'S 119° 35'E), Bungalbin Hill (30 ° 23' 45"S 119° 37' 47"E) and near Mount Jackson Homestead (30° 12' 13"S 119° 07' 08"E).

Candalides hyacinthinus hyacinthinus (Semper)
In Western Australia, this subspecies is recorded in the south-west from Glen Forrest south to Augusta, and east to the Porongurup Range (Common and Waterhouse 1981, Dunn and Dunn 1991, Williams *et al.* 1993). In 1996 we collected specimens on the south coast at Dunskey's Beach, West Cape Howe (35° 08'S 117° 36'E), 25km west-south-west of Albany.

Candalides hyacinthinus simplex (Tepper)
At Bungalbin Hill (30° 23' 45"S 119° 37' 47"E), males were observed hill-topping with *C. cyprotus*. Adult females were also active around *Cassytha melantha* R.Br. on the lower slopes.

Candalides erinus erinus (Fabricius)
In Western Australia *C. e. erinus* has a northerly distribution and occurs as far west as Vlaming Head, North West Cape (Williams *et al.* 1992). Female ovipositing behaviour was observed at Vlaming Head in July 1995 (AFA *pers. obs.*), where the foodplant is undoubtedly *Cassytha filiformis* L. We have recently recorded this species on red sand dunes 132 km south of Exmouth (23° 05'S 113° 53'E).

Neolucia agricola occidens Waterhouse and Lyell
N. a. occidens is recorded from south-western Australia as far north as Geraldton (Common and Waterhouse 1981; Dunn and Dunn 1991). We have recent material from Kalbarri National Park (27° 42' 59"S 114° 19' 13"E), and from the northern boundary of Zuytdorp National Park (27° 10' 36"S 113° 56' 55"E). These records extend the known distribution approximately 200 km further north.

Theclinesthes albocincta (Waterhouse)
Known from relatively few sites in Western Australia, we have specimens from 150 km south of Exmouth on the Exmouth-Minilya road (23 16' 06"S 113 52' 33"E).

Acknowledgements

We thank Bill Muir of the Department of Conservation and Land Management for specimens of *Neolucia agricola occidens* colleeted at Zuytdorp National Park. Greg Keighery of the Department of Conservation and Land Management identified the foodplants recorded in this paper. Anthony Desmond, Department of Conservation and Land Management, Narrogin, provided photographs of *Danaus plexippus* from Cape Burney, near Geraldton. We thank Rod Eastwood for providing the identification of *Iridomyrmex rufoniger* sp. group ants from Queen Victoria Spring (material examined by Ann Fraser and Stefan Cover of Harvard University). AFA acknowledges the assistance of the Department of Conservation and Land Management for providing a vehiele, and for accomodation at Cape Range National Park, and the University of Newcastle, NSW for Study Leave in 1995.

References

ATKINS, A.F. 1978. A collecting trip to Western Australia: A list of butterflies captured and some biological notes. *Victorian Entomalogist* 8(3): 25-29

COMMON, I.F.B. and WATERHOUSE, D.F. 1981. *Butterflies af Australia*: Pp. xiv + 682. Angus and Robertson, Sydney.

DUNN, K.L. and DUNN, L.E. 1991. *Review of Australian Butterflies: distribution, life history and taxonomy*. Pp. 1-660. Privately published, Melbourne.

EDWARDS, E.D. and GRAHAM, A.J. 1995. A new species of *Mesadina* Meyriek (Lepidoptera: Hesperiidae) from Western Australia. *Australian Entomologist* 22: 83-90.

GRAHAM, A.J. 1988. The life history of a semi-arid population of *Craitana croites* (Hewitson), (Lepidoptera: Hesperiidae: Trapezitinae). *Australian Entamological Magazine* 15: 123-126.

HUTCHISON, M.J. 1983. Occurrenee of *Cephrenes augiades sperthias* (Orange Palmdart Butterfly) in Perth. *Western Australian Naturalist* 15: 125-126.

HUTCHISON, M.J. 1988. The invasion of S.W. Australia by the Orange Palmdart *Cephrenes augiades sperthias* (Felder) Lepidoptera, Hesperiidae, and the subsequent increase in speeies associated with the fronds of the Canary Island Date Palm (*Phoenix canariensis*). *Western Australian Naturalist* 17: 73-86.

HUTCHISON, M.J. 1989. The invasion of south-western Australia by the Orange Palmdart (*Cephrenes augiades sperthias* (Felder), Lepidoptera, Hesperiidae) and its positive effeet on speeies riehness. *Journal of Biogeography* 16: 131-139.

LE SOUEF, J.C. 1975. A new locality for *Praeidosa polysema* (Lower) (Lepidoptera: Hesperiidae). *Australian Entomalogical Magazine* 2: 75.

MAYO, R. and ATKINS, A. 1992. *Anisyntoides* Waterhouse (Lepidoptera: Hesperiidae): a synonym of *Trapezites* Hubner, with description of a new species from Western Australia. *Australian Entomological Magazine* **19:** 81-88.

WILLIAMS, A.A.E. 1991. New southern records of the Yellow Palmdart *Cephrenes trichopepla* (Lower) (Lepidoptera: Hesperiidae) in Western Australia. *Australian Entomological Magazine* **18:** 43-44.

WILLIAMS, A.A.E., HAY, R.W. and BOLLAM, H.H. 1992. New records for six Lycaenid butterflies in Western Australia (Lepidoptera: Lycaenidae). *Australian Entomological Magazine* **19:** 25-27.

WILLIAMS, A.A.E. 1993. New distributional records for the Yellow Palmdart *Cephrenes trichopepla* and the Orange Palmdart *Cephrenes augiades sperthias* from Western Australia. *Western Australian Naturalist* **19:** 255-256.

WILLIAMS, A.A.E., WILLIAMS, M.R., HAY, R.W. and TOMLINSON, A.G. 1993. Some distributional records and natural history notes on butterflies from Western Australia. *Victorian Entomologist* **23:** 126-131.

WILLIAMS, A.A.E. and TOMLINSON, A.G. 1994. Further distributional records and natural history notes on butterflies from Western Australia. *Victorian Entomologist* **24:** 122-124.

WILLIAMS, A.A.E., WILLIAMS, M.R., TOMLINSON, A.G. and LUNDSTROM, T.D. 1996. Records of butterflies from the central desert region and semi-arid areas of Western Australia. *Victorian Entomologist* **26:** 29-34.

WILLIAMS, A.A.E. and ATKINS, A.F. 1996. The life history of the Western Australian skipper *Mesodina cyanophracta* Lower (Lepidoptera: Hesperiidae). *Australian Entomologist* **23:** 49-54.

CORRECTION TO: NEW DISTRIBUTION RECORDS AND NOTES FOR *OPODIPHTHERA LORANTHII* (Luc.) (LEPIDOPTERA: SATURNIIDAE) BY D.A. LANE, D.N. WILSON AND C.E. MEYER. *VIC. ENT.* 27(2) p27

The spelling of the generic name of *Opodiphthera* was incorrect in the title and in part of the text of the above article. Punctuation and parenthesis errors were also introduced. These were due to incorrect manual corrections of the scanned text and poor proof-reading. The editor apologises to the authors and readers for the errors.

NEW BUTTERFLY RECORDS AND NEW RANGE EXTENSIONS, FOODPLANT RECORDINGS AND BIOLOGY FOR SOME BUTTERFLIES FROM THE LOWER SOUTH-EAST REGION OF SOUTH AUSTRALIA

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Abstract
New distribution and foodplant recordings are documented for a number of Hesperiidae and Lycaenidae butterflies occurring within the Lower South-East Region of South Australia, and also records of attendant ants for some Lycaenidae. Three Hesperiidae species are recorded for the first time from South Australia, and *Ogyris abrota* is rediscovered since being first recorded from Mount Gambier in 1896. Comments are made on the biology of several Satyrinae species.

Introduction
The distribution data of Australian butterflies by Dunn and Dunn (1991), showed a number of endemic butterflies occurred in western Victoria that had never been recorded from South Australia. Using their data, and based on the near proximity of the distribution records to the border, the general habitat preferences of the butterflies and the presence of their preferred foodplant, the authors inferred the following Victorian butterflies would probably occur in South Australia, (provided suitable pristine habitat could be found); *Trapezites symmomus*, *Dispar compacta*, *Signeta flammeata*, *Oreisplanus perornatus*, *Delias harpalyce*, *Argynnina cyrila*, *Paralucia aurifera* and *Paralucia pyrodiscus*. The following species were inferred to possibly occur; *Trapezites phigalioides*, *Pasma tasmanica*, *Hesperilla ornata*, *Antipodia chaostola*, *Heteronympha banksii* and *Hypochrysops delicia*. It was decided to investigate whether these butterflies were either politically captive in Victoria or could indeed be hiding in South Australia. A short survey was undertaken in the Lower South-East area during 4-13 February 1997 when it was thought the largest number of flight periods of these butterflies would coincide.

Results
We were successful in determining the presence of *Trapezites symmomus*, *Dispar compacta* and *Signeta flammeata*, and also of the rediscovery of *Ogyris abrota*, known previously from a single male specimen in the E. Guest collection at the South Australian Museum, collected from Mount Gambier on 7 April 1896. The weather during the survey was very un-seasonal, with many overcast and drizzly days, which may have contributed to our lack of success in finding further butterflies.

Areas of remnant native vegetation in the region were found to be small, and preserved either as disjunct coastal remnants or as badly disturbed inland areas of state *Eucalyptus* forest. Historically, most of the original state forests were destroyed to grow pine trees. The preserved forests were, until recently, burnt every two years to remove the under-storey. The latter practice caused the diversity of the under-storey to diminish and promote the dominance of the native bracken. Intervening agricultural areas are planted out to lucerne that are often aerial sprayed with insecticide to keep in check the ravages of the Common grass-blue butterfly *Zizina labradus* and other insects. Numerous drains have destroyed the original swamp habitat that supported vast *Gahnia* wetlands, and particularly those containing *Gahnia clarkei* the foodplant for *Tisiphone abeona*. These original wetlands would undoubtedly have provided habitat for a number of other unique butterflies. It is incredible that butterfly diversity still exists in the region.

Discussion

HESPERIIDAE

Trapezites symmomus soma Waterhouse
This butterfly was relatively common in the south-eastern areas of the Lower South-East, wherever its foodplant *Lomandra longifolia* Labill. (Liliaceae) was seen in abundance. When not feeding at flowers, the females were present near the foodplant and the males were guarding territories in clearings and occasionally hill-topping. Eggs were seen on the flower heads (dead or alive, male or female) of the foodplant. The foodplant is sporadically present in mainly *Eucalyptus* forest remnants extending as far north as Naracoorte, and west to Millicent and Canunda National Park. The foodplant usually showed considerable evidence of leaf eating activity due to insects, but apart from the above mentioned eggs we were unable to find any other immature Hesperiidae stages.

Dispar compacta (Butler)
This butterfly was widely distributed, and was commonly seen feeding at yellow dandelion-type flowers occurring within the mowed firebreak areas adjacent to the *Eucalyptus* forest remnants or at *Scabiosa* flowers along the roadsides. Considering this butterfly is reported to utilise common grasses as a foodplant it is surprising it is not more widely distributed in South Australia, at least to the Mount Lofty Ranges, unless it is a relatively recent invader to South Australia capitalising on the extensive firebreak system associated with the forests. During the survey we had a chance to examine an old collection of butterflies from the region collected by Kath Alcock, a noted water-colour artist and naturalist for the area and now living at Naracoorte. She had collected *D. compacta* from Comaum, 75 km north of Mount Gambier, as early as 1960 (but never documented).

Signeta flammeata (Butler)
This butterfly was seen in similar situations to that of *D. compacta*, but was restricted to the border areas south-east of Mount Gambier, particularly in the vicinity of Caroline Forest.

Hesperilla donnysa delos Waterhouse
Immature stages were encountered on *Gahnia clarkei* Benl. (Cyperaceae) for the first time from South Australia. This *Gahnia* was used very infrequently as a foodplant.

Hesperilla idothea clara Waterhouse
This butterfly was commonly seen flying in the *G. clarkei* swamps. Immature stages were encountered on *Gahnia clarkei* and *Gahnia radula* (R.Br.)Benth. for the first time from South Australia.

Hesperilla ornata (Leach), *Oreisplanus perornatus* (Kirby) and *Antipodia chaostola* (Meyrick)
No evidence for these butterflies was seen, either as immature stages or flying adults. *Gahnia radula*, the most likely foodplant upon which these butterflies would be encountered, is now extremely rare in the South-East. The most prolific area of the gahnia's occurrence was within the pine forests to the north of Rennick, where it was being used as a foodplant by *Hesperilla donnysa delos* and *H. idothea clara*.

Taractrocera papyria papyria (Boisduval)
This grassdart was present in the *Gahnia trifida* swamps. Although expected, this was the first time it had been noticed in the area.

SATYRINAE

Geitoneura acantha ocrea (Guest)
This butterfly was not encountered, and it presently has an enigmatic distribution hole with no recorded occurrence between western Victoria and the Mount Lofty Range near Adelaide.

Oreixenica kershawi kanunda Tindale
This butterfly was very rarely encountered, and only within or adjacent to the remnant *G. clarkei* swamps. The closely related *O. lathoniella herceus* Waterhouse and Lyell, previously reported from Piccaninnie Ponds, was not seen.

Tisiphone abeona antoni Tindale
This butterfly was also extremely rare, being encountered in ones or twos, within or adjacent to the *G. clarkei* swamps. This may have been due to the lateness of their flying season, and only females were seen. They would often suddenly rise up above the *Gahnia* swamp, briefly fly a few metres then dip back into the dense *Gahnia* not to be seen again. R. Fisher (pers. comm.) experienced a similar flight pattern with the butterfly. The *G. clarkei* showed considerable evidence of leaf eating activity due to insects, but we were unable to find any immature stages of this butterfly. The butterfly was not evident near the areas of *Gahnia radula*, a reported foodplant in Victoria.

LYCAENIDAE

Paralucia aurifera (Blanchard) and *Paralucia pyrodiscus lucida* Crosby
Both these butterflies were looked for with considerable effort, but without success. We suspect they are like *Ogyris otanes* C. and R. Felder, in their habits (Grund 1996), whereby the colonisation is very local and infrequent. These are another couple of butterflies with an unusual distribution. Their foodplant *Bursaria spinosa* Cav. (Pittosporaceae) is common in South Australia yet their recorded distribution stops at the Victorian border.

Hypochrysops delicia Hewitson
Like the preceding *Paralucia* butterflies, the preferred foodplant for this butterfly is common in the region. We suspect the butterfly may be present in the area but extremely localised.

Ogyris abrota Westwood
This butterfly was recorded from several areas to the south and southeast of Mount Gambier. Its foodplant *Muellerina eucalyptoides* (DC.)Barlow (Loranthaceae) is common in the South-East, occurring mainly on redgums and stringybarks, and extending as far north as Padthaway and Binnum, and to Lucindale and Millicent in the west. North of Naracoorte the *Muellerina* populations are disjunctive. The remaining mistletoe populations are reasonably continuous and it is possible the butterfly is present, but it is very difficult to determine their presence on redgums and stringybarks as the mistletoe usually occurs at the tops of the trees. On the stringybarks the *Muellerina* is accompanied by another common mistletoe *Amyema pendulum pendulum* (Sieber ex Sprengel)Tieghem, which was often populated by *Ogyris olane ocela* Waterhouse. To the south of Mount Gambier a good population of *O. abrota* was witnessed, with flying adults and immature stages in all stages of development. Eggs were also present, in small clusters on the stems (usually) and leaves of the mistletoe or on the adjacent bark of the host eucalypt. Immature stages were attended by a small number of small, black ants *Iridomyrmex* sp, strongly smelling and which held their abdomens in the air when agitated. Interestingly, the pupating larvae were noted to construct weak, silken shelters under the bark of the host eucalypt, partly perhaps to make sure the bark stayed in place for the duration of the pupal period.

Ogyris olane ocela Waterhouse
The attendant ants for this butterfly were several different kinds of small back ants *Iridomyrmex* spp. The larval foodplants were *Amyema miquelii* (Lehm. ex Miq.)Tieghem and *A. pendulum pendulum*. The few adult specimens we obtained were more uniformly greyer on the underside than those from the Mount Lofty Ranges, and the upper-side purple areas were more reduced and of less intensity, a feature apparently attributable to cooler, moist conditions according to Common and Waterhouse (1981). This reduction of upper-side purple or blue areas in *Ogyris* populations occurring in cooler, moist areas of South Australia, is also noted in *O. amaryllis* and *O. genoveva*. (A similar clinal, melanism effect also occurs in two other South Australian butterflies, *Hesperilla donnysa* and *Geitoneura klugii*.)

Theclinesthes serpentata serpentata (Herrich-Schaffer)
Surprisingly, this butterfly was not encountered even though its saltbush foodplants *Rhagodia* spp, were common. This blue has yet to be recorded from the lower South-East.

Zizina labradus labradus (Godart)
Larvae of this butterfly, feeding on lucerne (**Medicago* sp), were attended by numerous small, dark-brown ants *Paratrechina* sp.

Acknowledgments
The ants were identified by Archie McArthur at the South Australian Museum.

References

COMMON, I.F.B. and WATERHOUSE, D.F. 1981. *Butterflies of Australia*. 682pp. Angus and Robertson, Sydney.

DUNN, K.L. and DUNN, L.E. 1991. *Review of Australian Butterflies: distribution, life history and taxonomy*, Parts 1-4. 660pp. Published by the authors, Melbourne.

FISHER, R.H. 1978. *Butterflies of South Australia*. 272pp. Government Printer, Adelaide.

FISHER, R.H. 1983. Butterflies of the South East in *Natural History of the South East*, pp215-222. TYLER, M.J., TWIDALE, C.R., LING, J.K. AND HOLMES, J.W. (Eds). Royal Society of South Australia, Adelaide.

GRUND, R. 1996. Range extensions, new foodplant recordings and biology for some South Australian butterflies. *Victorian Entomologist*. 26(5):93-100.

JESSOP, J.P. and TOELKEN, H.R. (Eds). 1986. *Flora of South Australia*. Parts 1-4, 2248pp. Government Printer, Adelaide.

JESSOP, J.P. (Editor) 1993. *A List of the Vascular Plants of South Australia*, (Edition IV). 151pp. The Botanic Gardens of Adelaide and State Herbarium.

ELTHAM COPPER POSTMARK

The Eltham Post Office has a new permanent pictorial postmark with the Eltham Copper butterfly *Paralucia pyrodiscus lucida* Crosby. It can be purchased from the Eltham Post Office (963 Main Road, Eltham 3095) on covers that feature the Big Greasy butterfly ($1.25 for the stamp and cover) or the crocodile and tree frog stamps ($0.75). The staff at the Post Office plan to set up a permanent Eltham Copper butterfly display at the Post Office and hope to have an Eltham Copper post card.

PATTERNS IN THE USE OF *ACACIA LONGIFOLIA* (ANDR.) WILLD. (MIMOSACEAE) BY WOOD-BORING INSECTS.

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Abstract
A wide range of insects were recorded from *Acacia longifolia* timber including eight species of Cerambycidae, 6 species of Buprestidae and 3 species of Curculionidae. All wood-boring insects emerged between August and March inclusive but core emergence periods for individual species ranged from one to five months. Some species emerged over three consecutive years while others emerged only during spring-summer period. Two buprestids emerged only in the third year indicating an extended larval life cycle. No clear habitat partitioning was evident in the host trees although the greatest number of species and individuals emerged from the mid-sized diameter timber and for some species there was a preference for certain size classes of timber.

Introduction

Acacia longifolia (Andr.) Willd. is a tall shrub or small tree which grows in a wide variety of habitats in coastal eastern Australia (Beadle *et al.* 1983, Jacobs and Pickard 1981).
A. longifolia[*] is host to a wide range of phytophagous insects. Various workers (eg. Froggatt 1902, Hawkeswood 1981, Webb 1988) have studied the foliage-feeding insects, particularly beetles, of *A. longifolia*. Some of the beetles which feed on foliage as adults have also been found to breed in the timber of *A. longifolia* (Dixon 1908a and b, Duffy 1963, Froggatt 1893, 1894, 1895, 1923, Hawkeswood 1981, van den Berg 1982, Webb 1987 and Williams 1985).

Although the wood-boring fauna of *A. longifolia* is now relatively well known compared to that of most other species of wattle, there is little data on habitat partitioning within whole plants. This study reports on the wood-boring and other wood-inhabiting insects of *A.longifolia* trees taken from Cumberland State Forest near Sydney, New South Wales. Trees were partitioned to examine differences in the insect faunas of various parts of the tree.

Materials and Methods

Three dead standing *A. longifolia* trees were removed from Cumberland State Forest. All three trees were known to be dead for approximately 12 months and appeared to have died of natural causes. Stems and all major branches were cut into 50cm long pieces and stored individually in 1mm wire mesh enclosures under ambient temperature. The root ball and minor branches and twigs of each were also retained for emergences. Emergences were recorded monthly from the date of collection until January 1989. Details of individual trees are given in Table 1.

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[*] At various times *A. sophorae*, a small coastal species, has been included as a subspecies of *A. longifolia*. Some previous studies may therefore have involved *A. sophorae* rather than *A. longifolia sensu stricto*. Hawkeswood (1981, 1992a, 1992b, 1993 and others) has identified some of the wood-boring fauna specifically associated with *A. sophorae*.

Results

The Fauna of *Acacia longifolia* Timber

Beetles from eleven families emerged from the *A. longifolia* timber (Table 2 & 3). Of these, species from three families, the Cerambyeidae, Buprestidae and Cureulionidae, are known to feed as larvae on the timber of *A. longifolia* (Table 4). The remaining families contain species which are either predatory on wood-boring insects or are incidental inhabitants of the timber. Eight species of Cerambycidae, six species of Buprestidae and three species of Curculionidae were reared from the timber.

The greatest number of species (All buprestids, 7 out of the 8 cerambycids and 2 of the 3 weevils) were reared from the largest tree (tree 3). Three species of Cerambycidae (*A.* nr. *lineola*, *B. signiferum* and *Ceresium* sp.) and two species of Buprestidae (*C. scabrosula* and *M. anchoralis*) were reared from all three trees.

Wood moths (species of Cossidae and Xyloryctidae) were also present in trunks and major branches of the three *A. longifolia* trees, but larvae were not reared through to adults.

Emergence Periods

All emergences occurred between August and March inclusive (Figure 1). Most individuals emerged from mid-spring to early summer. Emergence periods for most species were broadly overlapping. The cerambycids *A.* nr. *lineola* (September to March) and *B. signiferum* (August to February) emerged over the longest periods. The emergence periods for two undescribed *Melobasis* species (September to November and October to December respectively) were more restricted.

Some species such as *Ancita* nr *lineola*, *Bethelium signiferum, Syllitis fulvipennis* and *Melobasis anchoralis*, emerged over three spring-summer periods (1986-87, 1987-88 and 1988-89) while others emerged only on one of these periods. *Pachydissus sericus*, the two *Platyomopsis* species, *Cisseus scabrosula* and *Notiosomus major* only emerged in the first period (1986-87) while the two undescribed species of *Melobasis* only emerged during the third period (1988-89).

Habitat Partitioning

Insect species were not evenly distributed through the available timber resource (Table 3, Figure 2). The most diverse fauna was found in the 2-4mm size class (11 species) followed by the smaller classes 1-2mm (8 species) and 0-1mm (7 species). Eleven species only occurred in the smaller three classes. Of these, the Scolytinae sp. was only recorded from the 0-1mm class, *Platyomopsis nigrovirens* and *Notiosomus major* were only recorded from the 1-2mm class and and three species (*Tessaromma undatum, Melobasis naias* and an undescribed species of *Melobasis*) were only recorded from the 2-4mm class. Few species or individuals were recorded from the trunks of the three trees. *Cisseus scabrosula* was the only species more prevalent in the trunk timber and larger branches.

For some species there appeared to be correlation between body size and preferred timber diameter (eg. the smaller species, *Syllitis fulvipennis*, the *Scolytinae* sp., and to a lesser extent *Ancita* nr. *lineola* and *Melobasis anchoralis)*, but this pattern was inconsistent, particularly in regard to the larger species (*Platyomopsis albocincta* and *Platyomopsis nigrovirens*).

Discussion

The fauna of *A. longifolio* is relatively diverse with a wide range of Cerambycidae, Buprestidae and Cureulionidae recorded so far. This eompares favourable with *Acocio dealbata* Link for whieh considerable data is now available (Bashford 1991, van den Berg 1982, Webb 1990, 1994).

Hespenheide (1969, 1976) found that species of *Agrilus* (Buprestidae), using the same host speeies, tended to be of different sizes and infested branches of different diameters. It could be expected that similar competition for food resources within *A. longifolio* trees would result in spatial separation within the tree. However, despite the species diversity of *A. longifolia* timber, sueh differenees were not overly apparent with the majority of species and individuals reared from the diameter sizes of 4mm and less and little apparent preference. Sueh differences may be more apparent in a study involving a larger number of sample trees and more detailed structural classification of the tree. Bashford (1991) studied the cerambycid fauna of *Acacia deolbata* In Tasmania and found the majority of species and individuals oeeurred in the smaller timber size elasses (ca. 15-30mm). These trees were much larger than *A. longifolia* in this study but the same preferrence for smaller diameter timber was evident.

The pattern of emergence (over spring-summer) was similar to previous work (eg Bashford 1991, 1994, Webb 1994). For most species emergence occurred from early spring but the length of the emergence period varied greatly with eore emergence periods of one to 5 months. The reasons for the differential emergence between the three emergence periods is difficult to explain. For some speeies whieh emerged in large numbers in all three periods there may be re-infestation oeeuring as Bashford (1991) and Webb (1994) suggested. Thosc that emerged only during the third emergence period clearly have longer natural larval life cycles or the experimental environmental conditions under which the timber was kept caused a delayed emergenee. Webb (1994) reeorded extended larval life spans in some other *Acacia* spp.

References

Bashford R. (1991). Wood-boring Colcoptera and associated insects reared from *Acocio deolbata* Link in Tasmania. *Austrolion Entomologist* 18: 103-109.

Bashford R. (1994). Life history and mortality of the longicorn Epithora dorsalis Maeleay (Coleoptera: Cerambyeidae) in Tasmania. *Austrolian Entomologist* 21: 125-136.

Beadle, N.C.W., Evans O.D. and Carolin R.C. (1982). *Floro of thc Sydney Region.* 3rd ed., A.H. and A.W. Reed, Sydney.

Best, D. (1881). Longicorn beetles of Victoria Part 5. *Southern Science Record* 2: 35-38.

Best, D. (1903). Excursion to Wandong. *Victorion Natnrolist* 20: 103-104.

Dixon, J.E. (1908a). Food plants of Victorian Longicorn beetles. *Victorion Noturolist* 24: 155.

Dixon, J.E. (1908b). Food plants of Vietorian Longicorn beetles. *Victorion Noturalist* 25: 77.

Duffy, E.A.J. (1963). *A Monogroph of the Inmoture Stoges of Anstrolosion Timber Beetles (Cerombycidoe).* British Mus.(Nat.Hist.), London.

French C. (1900). *A hondbook of the destructive insects of Victorio, with notes on the methods to be adopted to check ond extirpate them. Port III.* Govt. Printer, Melbourne.

Froggatt, W.W. (1893). On the life-histories of Australian Colcoptera Part 1. *Proceedings Linnaeon Society N.S.W.* 8: 27-42.

Froggatt, W.W. (1894). On the life-histories of Australian Coleoptera Part 2. *Proceedings Linnaean Society N.S.W.* 9: 113-125.

Froggatt, W.W. (1895). On the life-histories of Australian Coleoptera Part 3. *Proceedings Linnaean Society N.S.W.* 10: 325-336.

Froggatt, W.W. (1902). Insects of wattle trees. *Agricultural Gazette N.S.W.* 13: 701-720.

Froggatt, W.W. (1907). *Insects of Australia*. William Brooks, Sydney.

Froggatt, W.W. (1923). *Forest Insects of Australia*. Govt. Printer, Sydney.

Froggatt, W.W. (1927). *Forest insects and timber borers*. Govt. Printer, Sydney.

Hawkeswood, T.J. (1981). Observations on two sympatric species of Buprestidae (Coleoptera) from sand dunes on the north coast of New South Wales. *Victorian Naturalist* 98: 146-151.

Hawkeswood T.J. (1985). New larval host plants for ten Australian longicorns (Coleoptera, Cerambycidae). *Giornale Italiano di Entomologia* 2: 393-398

Hawkeswood, T.J. (1986). New larval host records for eight Australian jewel beetle (Coleoptera, Buprestidae). *Giornale Italiano di Entomologia*. 3: 173-177.

Hawkeswood T.J. (1987). Bemerkungen zur biologie und zu den wirtspflanzen des australischen bockkafers *Pachydissus sericus* Newman (Coleoptera: Cerambycidae). *Entomologishe Zeitschrift* 97: 221-224.

Hawkeswood T.J. (1992a). Review of the biology and host plants of the Australian jewel beetle, *Agrilus australasiae* Laporte & Gory. *Spixiana* 15: 81-87.

Hawkeswood T.J. (1992b). Review of the biology and host plants of the Australian jewel beetle, *Melobasis pupurascens* (Fabricius) (Coleoptera: Buprestidae). *Sydney Basin Naturalist* 1: 51-54.

Hawkeswood T.J. (1993a). A new larval host plant for the Botany Bay diamond beetle, Chrysolopus spectabilis (Fabricius) (Coleoptera: Cureulionidae). *Sydney Basin Naturalist* 2: 43-44.

Hawkeswood T.J. (1993b). Review of the biology, host plants and immature stages of the Australian Cerambycidae. Part 2. Cerambycinae (Tribes Oemini, Cerambycini, Hesperophanini, Callidiopini, Neostenini, Aphanasiini, Phlyctaenodini, Tessarommatini and Piesarthrini). *Giornale Italiano di Entomologia* 6: 313-355.

Hawkeswood T.J. and Dauber D. (1990). Review of the host plants of the Australian longicorn beetle *Chlorophorus curtisi* (Laporte & Gory) (Coleoptera: Cerambycidae). *Koleopterologische Rundschau* 60: 125-129.

Hawkeswood T.J. and Dauber D. (1991). Review of the biology and host plants of the Australian longicorn beetle *Prosoplus iratus* (Pascoe) (Coleoptera: Cerambycidae). *Bulletin et. Annals Society royal belge Entomologie* 127: 401-405.

Hawkeswood T.J. and Peterson M. (1982). A review of larval host records for Australian jewel beetles (Coleoptera: Buprestidae). *Victorian Naturalist* 99: 240-251.

Hespenheide H.A. (1969). Larval feeding site of Agrilus (Coleoptera) using a common host plant. *Oikos* 20: 558-561.

Hespenheide H.A. (1976). Patterns in the use of single plant hosts by wood-boring beetles. *Oikos* 27: 161-164.

Jaeobs S.W.L. and Pickard J. (1981). *Plants of New South Woles. A census of the cycads, conifers and angiosperms*. Govt printer, Sydney.

Pierce W.D. (1917). *A manuol of dangerous insects likely to be introduced in the United States through importotion*. Washington.

van den Berg M.A. (1982). Coleoptera attaeking *Acacia dealbata* Link., *Acacia decurrens* Willd., *Acacia longifolia* (Andr.) Willd., *Acacia mearnsii* De Wild. and *Acacia melanoxylon* R.Br. in Australia. *Phytophyloctica* 14: 51-55.

Volkovitseh and Hawkeswood T.J. (1990). The larvae of *Agrilus australasiae* Laporte and Gory and *Ethon affine* Laporte and Gory (Insecta: Coleoptera: Buprestidae). *Spixiana* 13: 43-59.

Webb, G.A. (1987). Host plants of Cerambycidae (Coleoptera) held in some Australian inseet collections. *Forestry Commission N.S.W. Technical Paper* no.38, pp 1-19.

Webb, G.A. (1988). Some foliage insects of *Racosperma longifolia* (Andr.) L.Pedley (Mimosaceae) in New South Wales. *Victorian Naturalist* 105: 88-90.

Webb, G.A. (1990). Some wood-boring and other insects of *Acacia dealbata* Link from northern New South Wales. *Austrolian Entomologicol Mogazine* 17: 45-50.

Webb G.A. (1993). Plant associations of some Australian jewel beetles (Coleoptera: Buprestidae: Agrilinae). *Victorian Naturalist* 110: 160-162.

Webb G.A. (1994). The insect fauna inhabiting the wood of some *Acacia* spp. (Mimosaceae) in south-eastern Australia. *Victorion Entomologist* 24: 80-92.

Williams,G.A. (1985). New larval host plants for some Australian Buprestidae and Cerambycidae (Coleoptera) *Australian Entomological Mogozine* 12: 41-46.

Table 1. Details of *A.longifolio* trees felled

Tree no.	1	2	3
Date Felled	8 April 1986	3 November 1986	3 November 1986
Height (m)	4.0	4.7	7.0
Tree Diameter at Ground (cm)	7.0	7.0	12.0

Table 2. Insects recorded from *Acacia longifolia* timber

		Tree		
		1	2	3
Coleoptera				
Cerambycidae	*Ancita* nr *lineola* (Newman)	*	*	*
	Bethelium signiferum Newman	*	*	*
	Ceresium sp.	*	*	*
	Pachydissus sericus Newman	*	-	-
	Platyomopsis albocincta Guerin	-	-	*
	Platyomopsis nigrovirens Donovan	-	-	*
	Syllitus fulvipennis Gahan	*	-	*
	Tessaromma undatum Newman	-	*	*
Buprestidae	*Cisseus scabrosula* Kerremans	*	*	*
	Melobasis anchoralis Obenberger	*	*	*
	Melobasis naias	-	-	*
	Melobasis sp.1 [ordinata]	-	*	*
	Melobasis sp.2 [watkinsi]	*	*	*
	Melobasis sp.3	-	*	*
Curculionidae	*Notiosomus major* Wollaston	*	-	-
	Scolytinae sp. 1	-	-	*
	weevil sp. 1	*	-	-
Cleridae	*Eleale puchra* Newman	*	-	-
	Lemidia subaenea Gohr.	*	-	-
	sp. 1	-	-	*
Scarabaeidae	sp. indet.	-	*	-
Staphilinidae	sp. indet.	*	*	-
Cucujidae	*Placonotus* sp.	*	-	-
Tenebrionidae	*Amarygmus* sp.	*	-	-
	Menephilus sp.	*	-	*
	gen. indet.	*	-	-
Laemophoiedae	sp. indet.	*	-	-
Nitidulidae	*Brachypeplus* sp.	*	-	*
Salpingidae	*Neosalpingus* sp.	*	-	*
Bothrideridae	*Bothrideres vittatus* Newman	*	*	*
Hymenoptera				
Stephanidae	*Stephanops* sp.	*	-	-
Braconidae	various sp. indet.	*	*	*
Lepidoptera				
Cossidae	sp. indet.	*	*	*
Xyloryctidae	sp. indet.	-	*	*

Table 3. Distribution of borers in trees.

Tree	Billet Location	Cerambycidae								Buprestidae					Curculionidae			Moths	
	& size (mm)	AL	BS	Csp.	PS	PA	PN	SF	TU	CS	MA	MN	M1	M2	NM	SCO	Wsp	COS	XYL
1	Trunk (>5)	1		1						2								*	
	Branch (4-6)	8			1					1									
	Branch (2-4)	15															1		*
	Branch (1-2)	16									3				2				
	Branch (0-1)	7	1					6			13			1					
2	Trunk (>5)									5								*	
	Branch (4-6)																		
	Branch (2-4)		12	1					5				3						*
	Branch (1-2)		31								1								
	Branch (0-1)	3	6	1										1					
3	Trunk (>5)									5								*	
	Branch (4-6)																		
	Branch (2-4)		24	1		1		1	2		2	1	5	3					
	Branch (1-2)	2	1	3		2	1							2					
	Branch (0-1)	4	3											1		2			
T	Trunk (>5)	1		1						12								*	
	Branch (4-6)	8			1					1									
	Branch (2-4)	15	36	2		1		1	7		2	1	8	3			1		*
	Branch (1-2)	18	32	3		2	1				4			2	2				
	Branch (0-1)	14	10	1				6			13			3		2			

Key to Species: **Cerambycidae** **AL.** *Ancita* nr. *lineola* **BS.** *Bethelium signiferum* **C1.** *Ceresium* sp. **PS.** *Pachydissus sericus* **PA.** *Platyomopsis albocincta* **PN.** *Platyomapsis nigrovirens* **SF.** *Syllitus fulvipennis* **TU.** *Tessaromma undatum*
Buprestidae **CS.** *Cisseus scabrosula* **MA.** *Melobasis ancharalis* **MN.** *Melobasis* naias **M1.** *Melobasis* sp.1 **M2.** *Melabasis* sp. 2.
Curculionidae **NM.** *Notiosomus mojor* **S1.** Scolytinae sp.1 **W1** weevil sp.1
Moths **C1.** Cossidae sp.1 **X1.** Xyloryctidae sp.1

Table 4. Coleoptera recorded previously from *Acacia longifolia* timber

Species	longifolia	sophorae
Buprestidae		
Agrilus australasiae L. &. G.		17, 25, 28
Agrilus deauratus Macleay	29?	
Cisseus maculata L. & G.	9, 23	
Cisseus scabrosula Kerr.	9 (as *semiscabrosa*), 24, 23, 27, 28	
Cisseus nr. *laticollis* Cact.	24	
Melobasis cupriceps (Kirby)	9 (as *iridescens*), 12, 23	
Melobasis purpurascens (F.)	9 (as *splendida*), 12, 15, 18, 23	15, 18
Cerambycidae		
Ancita nr. *antennata* (Pascoe)	24	
Ancita crocogaster (Boisd.)	26	
Ancita lineola Newman	27	
Ancita marginicollis (Boisd.)	14, 24, 26, 29	
Chlorophorus curtisi (Laporte & Gory)		21
Ectinope spinicollis Pascoe	20, 29	
Illaena inconspicua (Pascoe)	5, 8, 12, 26 (as *exilis*)	
Pachydissus sericus Newman	5, 7, 11, 12, 13, 16, 20, 24, 26	
Pentacosmia scoparia Newman	5, 8, 12, 26	
Piesarthrius marginellus Hope	2, 3, 5, 7, 6, 11, 12, 20, 24	
Platyomopsis albocinctus (Guerin)	5, 7, 12, 26	
Platyomopsis egena (Pascoe)	5, 7 (as *negiectus*), 11 (as *neglectus*), 12 (as *negiectus*), 14	
Platyomopsis nigrovirens (Don.)	5, 7, 12, 26?	
Platyomopsis pulverulens (Boisd.)	5, 12	
Prosoplus iratus (Pascoe)		22
Rhinophthalmus nasutus (Schuck.)	5, 8, 12, 26	
Rhytiphora rugicollis (Dalman)	4, 5	
Sybra acuta Pascoe	5, 8, 12	
Symphyletes decipens (Pascoe)	3	
Uracanthus bivitta Newman (as *bivittata*)	5*	
Uracanthus simulans Pascoe	5*	
Uracanthus triangularis Hope	1#, 5, 10, 12	7
Curculionidae		
Chrysolophus spectabilis (F.)	24	19

? host species uncertain

Duffy (1963) incorrectly attributed the name "common wattle" in Best (1880) to *A.longifolia*. It probably refers to *A.mollissima* (now *Acacia mearnsii* De Wild.)

* Duffy (1963) lists Pierce (1917) [Pierce (1918) in bibliography] as the source for *U. bivitta* and *U. simulans*. Reference not checked.

References

1. Best (1881) 2. Best (1903) 3. Dixon (1908a) 4. Dixon (1908b) 5. Duffy (1963) 6. French (1900) 7. Froggatt (1893) 8. Froggatt (1894) 9. Froggatt (1895) 10. Froggatt (1902) 11. Froggatt (1907) 12. Froggatt (1923) 13. Froggatt (1927) 14 Hawkeswood (1985) 15. Hawkeswood (1986) 16. Hawkeswood (1987) 17. Hawkeswood (1992a) 18. Hawkeswood (1992b) 19. Hawkeswood (1993a) 20. Hawkeswood (1993b) 21. Hawkeswood & Dawber (1990) 22. Hawkeswood & Dawber (1991) 23. Hawkeswood & Peterson (1992) 24. van den Berg (1982) 25. Volkovitsch and Hawkeswood (1990) 26. Webb (1987) 27. Webb (1988) 28. Webb (1993) 29. Williams (1985).

Figure 1. Main emergence periods for wood-boring beetles

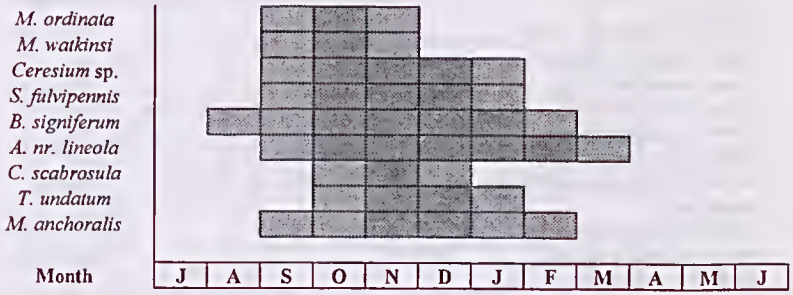
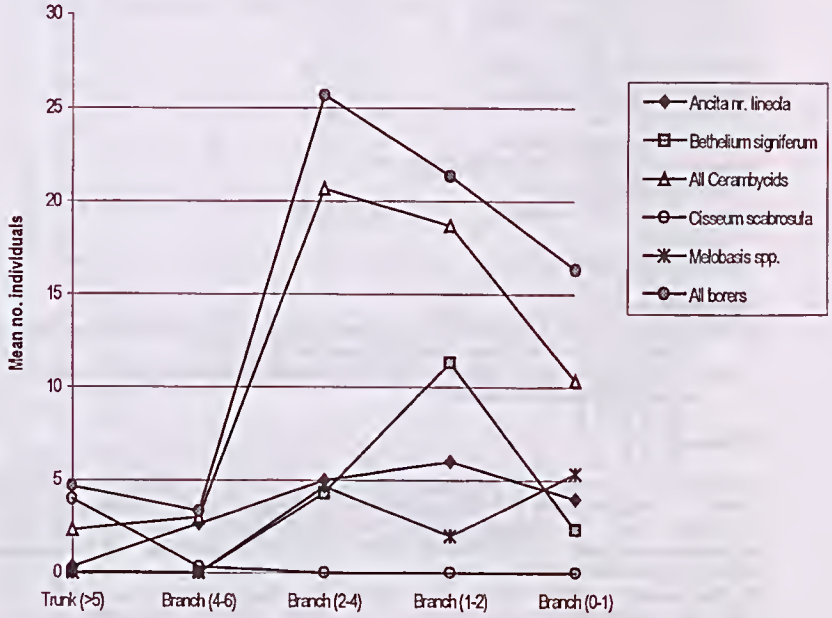


Figure 2. Distribution of borers in trees by diameter of timber (mm) [Mean of three trees].



RECENT ARTICLES OF INTEREST

Compiled by Ian Faithfull

Victorian Naturalist 114(1), Feb. 1997. Special issue on the environmental impact of honeybees in Australia: T.R.New, Significance of honey bees in the Australian environment: setting the scene, pp. 4-7; M.Schwarz and P.Hurst, Effects of introduced honey bees on Australia's native bee fauna, pp. 7-12; The honey bee debate: a critique of scientific studies of honey bees *Apis mellifera* and their alleged impact on Australian wildlife, pp. 13-22; D.C.Paton, Honey bees *Apis mellifera* and the disruption of plant-pollinator systems in Australia, pp. 23-29.

Insects, possums kill gums. *Weekly Times* 19 March 1997 p.45. Unspecified insects blamed for red gum dieback in the Woorndoo district of Western Vic. Trees are being "photographed each month, tested for insect infestation and fitted with tin bands to stop possums."

Natural weapons in mite war. *Weekly Times* 19 Mar. p.37. Another successful user of Agriculture Victoria's *Cropwatch* program and integrated pest management. An apple grower at Harcourt, Vic., introduced the predatory mite *Typhlodromus occidentalis* to control twospotted mite, *Tetranychus urticae*, in his apple orchard ten years ago and has subsequently not had to use chemical control. Insecticide usage in the orchard has been cut by 40% over the decade.

Fleming, R., 'Crawling cereal taken off local store shelves'. *Frankston Standard* 31 March 1997 pp. 1, 7. "Breakfast shock ... a Frankston resident says his breakfast cereal almost crawled out of the packet and into the bowl. ... When I opened it, there were weevils in it. Actually, they looked more like maggots or long, white caterpillars." A discount store has removed at least four brands of cereal from its shelves, due to infestation with unnamed moth larvae.

Brown, M., Fruit fly outbreak sparks fears, *Herald Sun* 2 Apr.1997 p.3; Dent, S., Export fear as fly hits Shepparton, *Weekly Times* 2 Apr. p.7; Carson, A., More fruit flies found in Shepparton, *The Age* 3 Apr. p.A2. *Dacus tyroni* found in traps in suburban Shepparton in the Goulburn Valley triggered quarantine measures again, the third outbreak in 15 years: no fruit can be exported from within 80 km of the outbreak without cold storage treatment for 14 days or treatment with dimethoate, possibly until May 1998, and fruit trees within 1.5 km have to be sprayed.

Fire and the butterfly. *Flora and Fauna News* (Flora and Fauna Division, Department of Natural Resources and Environment) No 4, Autumn 1997. Lack of fire at the Eltham Copper butterfly (*Paralucia pyrodiscus lucida* Lycaenidae) reserve is reported to have allowed the food plant, *Bursaria spinosa*, to grow tall and unsuitable for the larvae and restricted the open flight space for adult butterflies. A fire plan has been developed in preparation for a possible ecological burn this autumn [cf. D.Dobrosak]. As reported elsewhere in this issue a burn will not go ahead. larval feeding is reported to keep the food plants at the appropriate size.

Bygrave, F., 1997. **Australian red cedar - growing this valuable tree.** *Australasian Science* 18(1): 27-9. The great utility of the timber of *Toona ciliata* led to it being 'logged out' of NSW and Qld rainforests by the early 1900s. Plantation forestry is prevented by the red cedar tip moth, *Hypsipyla robusta*, which kills off the growing tips causing multiple branching in saplings. Researchers have established plantations and laboratory cultures to study the biology of the moth, its pheromones and the attractants in the tree.

Woodall, P., 1996. **Mortality of migrating caper white butterflies.** *Queensland Naturalists Club News* No.212, p.18. Mortality of *Anaphaeis* [*Belenois*] *java* based on counts of wings along a track in the Brisbane Forest Park estimated to be 26 per hectare one week after a migration. [cr. P.Woodall]

Woodall, P., 1996. **Whimbrel feeding on blue tiger butterflies.** *Sunbird* 26(2): 46-8. Amongst other food items, a wader, *Numenius phaeopus*, on the beach at Scawfell Island, Queensland, captured and consumed numerous *Tirumala hamata*. [cr. P.Woodall]

Woodall, P., 1996. **Cicada predated by an ant.** *Queensland Naturalist* 34(1-3): 32. *Psaltoda claripennis* by *Myrmecia forficata*. [cr. P.Woodall]

Turner, J.R. and Hawkeswood, T.J., 1995. A new larval host plant for the Australian jewel beetle *Ethon fissiceps* (Kirby) (Coleoptera: Buprestidae). *Mauritiana* (Altenberg) 15: 317-319. *Dillwynia floribunda* (Fabaceae). *Ethon* spp. known to develop only in galls of *Pultenaea* and *Dillwynia*. [cr. T.Hawkeswood]

Turner, J.R. and Hawkeswood, T.J., 1995. A note on *Nascio vetusta* (Boisduval) (Coleoptera: Buprestidae) from Australia. *Mauritiana* 15: 321-325. *Eucalyptus gontocalyx* recorded as larval host. Aspects of larval/pupal chambers described. [cr. T.Hawkeswood]

Thornton, I., 1997. **Krakatau: The Destruction and Reassembly of an Island Ecosystem.** Harvard University Press, 360 pp., $52. A volcanic eruption on Krakatau island in 1883 eliminated all plant and animal life. Expeditions by La Trobe University biologists have enabled continued studies of recolonisation. Community assembly, island biogeography.

Price, P.W., 1997. **Insect Ecology.** 3rd Ed., Wiley, 608 pp., 300+ figures, $117. New edition of comprehensive American text.

Steve Parish Amazing Facts about Australian Insects and Spiders and other Bush and Garden Creatures. Steve Parish Publishing, Discover and Learn Vol. 5., text by Pat Slater, 80 pp., $9.95. A great book for kids. Brilliant photos, clear diagrams, the best bizarre, incredible and mundane facts. [cr. J.Bould]

Thanks to Trevor Hawkeswood, Daniel Dobrosak, Peter Woodall and Jewel Bould for contributions.

Please forward material suitable for inclusion in "Recent Articles of Interest" to the compiler at 16 Nabilla Avenue, Seaford, Vic., 3198.

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DIARY OF COMING EVENTS

Friday 20 June Annual General Meeting
Presidential Address: "The Romance of Insects in European Art"

Friday 18 July Council Meeting

Friday 15 August General Meeting
Talk by Ian Endersby on "The Biology and Behaviour of Dragonflies"

Friday 19 September Council Meeting

8 pm Friday 17 October General [Incorrect date in 27(2) issue]
Meeting & Excursion to view the "Victorian Agricultural Insect Collection" and facilities for the Rearing of Biocontrol Agents. At the Institute for Horticultural Development 621 Burwood Highway, Knoxfield.

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